

## CLAIMS:

Sub B' 1. A film scanner with an automatic focusing device in which the film images are shown line by line by means of an objective on at least one line sensor,

A wherein characterized in that

5 with a still film the adjusting range of the objective is passed through according to a predefined program, in that the then developing video signals are evaluated for their high-frequency component and in that the objective is adjusted to the maximum of the high-frequency component.

2. A film scanner as claimed in claim 1,

A wherein characterized in that

10 the film (1) is scanned in the interstice between two images (image gap).

3. A film scanner as claimed in claim 1,

A wherein characterized in that

15 the film (1) is scanned within an image and that during the evaluation of the video signals the image content is suppressed particularly by autocorrelation.

4. A film scanner as claimed in ~~one of the preceding claims~~,<sup>1</sup>

A wherein characterized in that

20 for measuring the high-frequency component, differences are formed between the amplitudes of the picture elements neighboring the video signals.

5. A film scanner as claimed in ~~one of the claims 1 to 3~~,<sup>1</sup>

A wherein characterized in that

25 for measuring the high-frequency component, the video signals are subjected to a Fast Fourier Transform (FFT)

6. A film scanner as claimed in ~~one of the preceding claims~~,<sup>1</sup>

A wherein characterized in that

after the adjusting range has been passed through, a smaller range of the objective (9) is passed through, which smaller range includes the previously defined maximum, and in that the objective (9) is adjusted to a further maximum which is determined after the smaller range has been passed through.

5

A  
A  
7. ~~wherein~~ A film scanner as claimed in ~~one of the preceding claims,~~  
~~characterized in that~~

for determining the maximum from the scanning values of each picture element obtained while the adjusting range is passed through, a respective curve is generated, in that for each  
10 curve a maximum is derived and in that an average value of the positions of the maximums is formed while the maximums that lie outside a predefined spread are not taken into account.

A  
8. ~~wherein~~ A film scanner as claimed in claim 7,  
~~characterized in that~~

15 for determining the maximums the respective function is differentiated and a zero is determined.

A  
9. ~~wherein~~ A film scanner as claimed in ~~one of the preceding claims,~~  
~~characterized in that~~

20 the video signals are written in a vertical format buffer (15) and transmitted from there to a digital signal processor (17) which is programmed for determining the maximum.

A  
A  
10. ~~wherein~~ A film scanner as claimed in ~~one of the preceding claims,~~  
~~characterized in that~~

25 in line with the predefined program the lighting of the film is controlled so that the film (1) is not lighted when the scanning does not need this.